

Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

In the Matter of	)	
	)	
Establishment of an Advisory	)	
Committee to Negotiate Proposed	)	CC Docket 92-76
Regulations for Low-Earth Orbit	)	
Satellite Services	)	

To: The Commission

REPLY COMMENTS

LEOSAT Corporation ("LEOSAT") previously submitted comments in response to the Commission's Public Notice that initiated this proceeding. LEOSAT requested that it be permitted to serve on the proposed Federal Advisory Committee intended to establish service rules for small LEO's through regulatory negotiation. In particular, LEOSAT noted that its interests would not be served by the parties tentatively identified by the Commission to serve on this committee. Nor would the Commission have the opportunity to consider an innovative modulation coding scheme -- Space Division Multiple Access (SDMA) -- as the standard for LEO services. LEOSAT's SDMA initiative is indicative of the bold and forward-thinking approach it would bring to the negotiated rule making as well as its approach to the LEO market.

LEOSAT wishes to provide the Commission with these informal comments in response to the joint filing of ORBCOMM, STARSYS and VITA (the "Joint Filing"), which

suggested that the Commission forego a negotiated rule making since these parties had reached agreement on the rules for small LEOs.<sup>1</sup>

The very existence of this Joint Filing makes an even stronger case for the need to have an open, on-the-record negotiated rule making to establish the basic parameters of a LEO service to serve the public interest, not those of three applicants.

The Joint Filing presents the Commission with what purports to be the consensus of all parties that will be significantly affected by the LEO rules. In fact, nothing could be further from the truth. The Joint Filing is nothing more than "customized" rules that are intended to foreclose future competition for LEO satellite services.<sup>2</sup>

The Joint Filing informs the Commission that the parties have made this proposal on the assumption that their systems will coexist and that these parties are now discussing means of sharing the spectrum among themselves. Thus, a proposal that claims to be neutral is in fact a means for certain applicants to ensure that current and

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<sup>1</sup> See in particular, Joint Filing at pages 5-6.

<sup>2</sup> Had this proposal been made as a Petition for Rule making, the proper procedural device for members of the public to suggest rules tailored to private needs, LEOSAT would oppose the Petition through a detailed response. Should the Commission ultimately decide to forego a negotiated rule making, LEOSAT respectfully suggests that the Commission treat the Joint Filing as a Petition for Rule Making and allow the public an opportunity to comment.

future LEO systems will be hamstrung by rules designed to meet the self-interest of these parties. That these parties take for granted that only three systems -- their own proposals -- could be accommodated within the proposed spectrum, and that they are moving to ensure this result, exposes their obvious intent to limit competition.

Moreover, the Joint Filing calls into question the ability of these parties to negotiate in good faith on the issue of "the extent to which the spectrum may be shared by future applicants," an issue raised by the Public Notice.<sup>3</sup> At a minimum, the actions alluded to in the Joint Filing indicate that these applicants have reached a de facto settlement and are in fact one applicant. Thus, to allow these parties three seats on the Federal Advisory Committee would be patently unfair since they share a single common interest.

LEOSAT and other respondents to the Public Notice support the use of negotiated rule making procedures. LEOSAT respectfully asks that the Commission not confuse the private interests of certain applicants with the public interest in a future LEO service that is competitive, technologically-efficient and responsive to consumer needs.

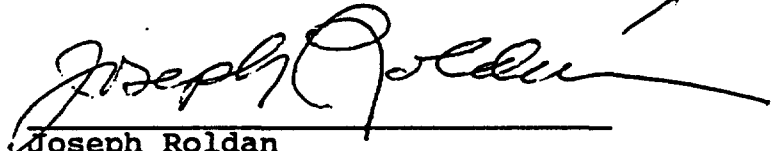
The negotiated rule making process will ensure that the interests of all parties are considered in an environment

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<sup>3</sup> Public Notice of April 16, 1992, DA 92-443, paragraph 6.

conducive to compromise and consensus and that the resulting public rule making will permit the Commission to expeditiously authorize a new LEO satellite service.

Respectfully submitted,



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May 29, 1992

CERTIFICATE OF SERVICE

I hereby certify that on this 29th day of May, 1992, I caused copies of the foregoing "Reply Comments" to be mailed via first-class postage prepaid mail to the following:

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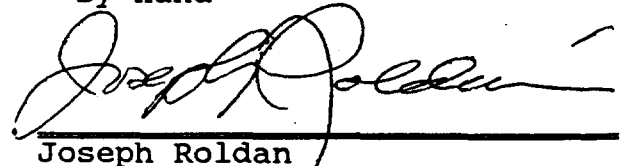
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**Final Acts  
of the World  
Administrative  
Radio Conference  
(WARC-92)**



**Málaga-Torremolinos, 1992**

**ADDENDUM  
+  
CORRIGENDUM;**

**to the**

**Final Acts  
of the World  
Administrative  
Radio Conference  
(WARC-92)**



**Málaga-Torremolinos, 1992**

MOD

MHz 137 - 137.175		
Allocation to Services		
Region 1	Region 2	Region 3
137 - 137.025	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 599B Fixed Mobile except aeronautical mobile (R) 596 597 598 599 599A	
137.025 - 137.175	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) 599B Fixed Mobile except aeronautical mobile (R) 596 597 598 599 599A	

ADD

599A

The use of the band 137 - 138 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution COM5/8. However, coordination of a space station of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced by the station exceeds -125 dB(W/m<sup>2</sup>/4 kHz) at the Earth's surface. The above power flux-density limit shall apply until such time as a competent world administrative radio conference revises it. In making assignments to the space stations in the mobile-satellite service in the above band, administrations shall take all practicable steps to protect the radio astronomy service in the 150.05 - 153 MHz band from harmful interference from unwanted emissions.

ADD

599B

The use of the bands 137 - 138 MHz, 148 - 149.9 MHz and 400.15 - 401 MHz by the mobile-satellite service and the band 149.9 - 150.05 MHz by the land mobile-satellite service is limited to non-geostationary-satellite systems.



MOD

MHz  
137.175 - 138

Allocation to Services		
Region 1	Region 2	Region 3
137.175 - 137.825	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 599B Fixed Mobile except aeronautical mobile (R) 596 597 598 599 599A	
137.825 - 138	SPACE OPERATION (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Mobile-Satellite (space-to-Earth) 599B Fixed Mobile except aeronautical mobile (R) 596 597 598 599 599A	

MOD

MHz 148 - 150.05		
Allocation to Services		
Region 1	Region 2	Region 3
148 - 149.9 FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 599B 608 608X 608Z	148 - 149.9 FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 599B  608 608X 608Z	
149.9 - 150.05	RADIONAVIGATION-SATELLITE LAND MOBILE-SATELLITE (Earth-to-space) 599B 609B 608Y 609 609A	

- ADD 608X** The use of the band 148 - 149.9 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution COM5/8. The mobile-satellite service shall not constrain the development and use of fixed, mobile and space operation services in the band 148 - 149.9 MHz. Mobile earth stations in the mobile-satellite service shall not produce a power flux-density in excess of -150 dB(W/m<sup>2</sup>/4 kHz) outside national boundaries.
- ADD 608Y** The use of the band 149.9 - 150.05 MHz by the land mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution COM5/8. The land mobile-satellite service shall not constrain the development and use of the radionavigation-satellite service in the band 149.9 - 150.05 MHz. Land mobile earth stations of the land mobile-satellite service shall not produce power flux-density in excess of -150 dB(W/m<sup>2</sup>/4 kHz) outside national boundaries.
- ADD 608Z** Stations of the mobile-satellite service in the band 148 - 149.9 MHz shall not cause harmful interference to, or claim protection from stations of the fixed or mobile services in the following countries: Algeria, the Federal Republic of Germany, Saudi Arabia, Australia, Austria, Bangladesh, Belarus, Belgium, Brunei Darussalam, Bulgaria, Cameroon, Canada, Cyprus, Colombia, Congo, Cuba, Denmark, Egypt, the United Arab Emirates, Ecuador, Spain, Ethiopia, the Russian Federation, Finland, France, Ghana, Greece, Honduras, Hungary, Iran, Ireland, Iceland, Israel, Italy, Japan, Jordan, Kenya, Libya, Liechtenstein, Luxembourg, Malaysia, Mali, Malta, Mauritania, Mozambique, Namibia, Norway, New Zealand, Oman, Pakistan, Panama, Papua New Guinea, the Netherlands, Philippines, Poland, Portugal, Qatar, Syria, Romania, the United Kingdom, Singapore, Sri Lanka, Sweden, Switzerland, Suriname, Swaziland, Tanzania, Chad, the Czech and Slovak Federal Republic, Thailand, Tunisia, Turkey, Ukraine, Yemen and Yugoslavia that operate in accordance with the Table of Frequency Allocations.
- ADD 609B** In the band 149.9 - 150.05 MHz, the allocation to the land mobile-satellite service shall be on a secondary basis until 1 January 1997.

**MOD**

MHz 400.15 - 401		
Allocation to Services		
Region 1	Region 2	Region 3
400.15 - 401	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) 647A MOBILE-SATELLITE (space-to-Earth) 599B Space Operation (space-to-Earth) 647 647X	

**ADD**

**647A**

The band 400.15 - 401 MHz is also allocated to the space research service in the space-to-space direction for communications with manned space vehicles. In this application, the space research service will not be regarded as a safety service.

**ADD**

**647X**

The use of the band 400.15 - 401 MHz by the mobile-satellite service is subject to the application of the coordination and notification procedures set forth in Resolution COM5/8. However, coordination of a space station of the mobile-satellite service with respect to terrestrial services is required only if the power flux-density produced by the station exceeds -125 dB(W/m<sup>2</sup>/4 kHz) at the Earth's surface. The above power flux-density limit shall apply until such time as a competent world administrative radio conference revises it. In making assignments to the space stations in the mobile-satellite service in the above band, administrations shall take all practicable steps to protect the radio astronomy service in the band 406.1 - 410 MHz from harmful interference from unwanted emissions.

ARTICLE 29

- MOD 2613 § 2.** Non-geostationary space stations shall cease or reduce to a negligible level their emissions, and their associated earth stations shall not transmit to them, whenever there is insufficient angular separation between non-geostationary satellites and geostationary satellites resulting in unacceptable interference<sup>1</sup> to geostationary-satellite space systems in the fixed-satellite service operating in accordance with these Regulations.
- ADD 2613A** Whenever the emissions from geostationary satellites in the inter-satellite service are directed towards space stations at distances from Earth greater than that of the geostationary-satellite orbit, the boresight of the antenna mainbeam of the geostationary satellite shall not be pointed within 15° of any point on the geostationary-satellite orbit.

## **RESOLUTION COM5/8**

### **Interim Procedures for the Coordination and Notification of Frequency Assignments of Non-Geostationary-Satellite Networks in Certain Space Services and the Other Services to Which the Bands are Allocated<sup>1</sup>**

The World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (Malaga-Torremolinos, 1992),

#### **considering**

- a) that in several different space radiocommunication services there is increasing interest in the use of space systems using non-geostationary-satellite networks;
- b) that, in order to ensure the satisfactory operation of such networks, other networks and other radio services sharing the same frequency bands, taking into account the relevant allocations, there is a need for procedures to regulate the frequency assignments of non-geostationary-satellite networks;
- c) that the coordination methods for non-geostationary-satellite networks require specific criteria and calculation methods which are not yet available;
- d) that, consequently, there is a need for interim procedures to be applied until such time as a future conference, with the benefit of further studies by the CCIR and taking account of the experience gained in practice, is able to adopt a permanent procedure;

#### **considering also**

- e) that the Plenipotentiary Conference (Nice, 1989), initiated the formation of a Voluntary Group of Experts, one of whose tasks is to simplify the procedures of the Radio Regulations;
- f) that any new procedures adopted by this Conference must therefore be as simple as possible and should, where appropriate, make use of the existing procedures of the Radio Regulations;
- g) that any interim procedures must take full account of the status of the allocations to services, both terrestrial and space, in frequency bands which may be used by non-geostationary-satellite networks;
- h) that any interim procedures must also take full account of the interests of all countries, including the state of development of their terrestrial and space radiocommunication services;

#### **considering further**

- i) that the provisions of No. 2613 of the Radio Regulations, while necessary to safeguard geostationary-satellite networks in the fixed-satellite service from interference which might be caused by non-geostationary-satellite networks, would, if more widely applied, prejudice the development of such systems in other space radiocommunication services;

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<sup>1</sup> This Resolution shall be applied only to the frequency bands for which specific reference is made to this Resolution in the footnotes to the Table of Frequency Allocations. For the purpose of applying the interim procedures annexed to this Resolution, an administration, when providing information in the form of Appendices 3 or 4, shall state whether it relates to a geostationary satellite or to a non-geostationary satellite and shall provide the appropriate orbital information.

**recognizing**

that the operation of telecommunication systems in the MSS bands must be in conformity with the International Telecommunication Convention and the Administrative Regulations in force, in particular their respective preambles and, in this respect:

- a) the right of each Member to decide how or whether to participate in the above systems, and to determine the terms and conditions of access to such systems from its territory;
- b) the obligation for entities and organizations providing international or national telecommunication services by non-geostationary-satellite networks to operate at the point of delivery under the legal, financial and regulatory requirements of the Member of the Union in whose territory these services are authorized;

**resolves**

1. that, pending the adoption of a permanent procedure by a future competent conference, the use of frequency assignments by:
  - a) non-geostationary-satellite systems in the space services in relation to other non-geostationary-satellite systems, geostationary-satellite systems and terrestrial systems;
  - b) geostationary-satellite systems in relation to non-geostationary-satellite systems; and,
  - c) terrestrial systems in relation to the earth stations of non-geostationary-satellite networks;

to which this Resolution applies shall be regulated in accordance with the interim procedures and the associated provisions in the annex hereto;

2. that the interim procedures annexed to this Resolution apply in addition to those of Articles 11 and 13 for geostationary-satellite networks and shall replace those of Articles 11 and 13 for non-geostationary-satellite networks;

3. that the interim procedures annexed to this Resolution shall be applied from 4 March 1992;

**invites**

1. all administrations concerned in or by the introduction and operation of non-geostationary-satellite systems in the relevant space services to cooperate in the application of these interim procedures;
2. all those administrations which acquire experience in the application of the annexed interim procedures to contribute to the studies of the CCIR;

**instructs the IFRB**

to apply these procedures and to provide the necessary assistance to administrations;

**invites the CCIR**

to study and develop Recommendations on the coordination methods, the necessary orbital data relating to non-geostationary-satellite systems, and the sharing criteria;

**instructs the Secretary-General**

to bring this Resolution, at an appropriate stage, to the attention of the Administrative Council with a view to the inclusion of this subject in the agenda of a future conference.

## **ANNEX TO RESOLUTION COM5/8**

### **Interim Procedures for the Coordination and Notification of Assignments of Non-Geostationary-Satellite Networks in Certain Space Services and the Other Services to Which the Bands are Allocated<sup>1</sup>**

#### **Section A. General Information**

**A.1** The assistance of the IFRB can be requested in the application of the provisions of this annex.

**A.2** In the absence of specific provisions relating to the evaluation of the interference, the calculation methods and the criteria should be based on relevant CCIR Recommendations agreed by the administrations concerned either as a result of Resolution 703 (Rev. WARC-92) or otherwise. In the event of disagreement on a CCIR Recommendation or in the absence of such Recommendations, the methods and criteria shall be agreed between the administrations concerned. Such agreements shall be concluded without prejudice to other administrations.

**A.3** When applying the provisions of this Resolution for non-geostationary-satellite networks, administrations should provide the following information in addition to that of Appendix 3 or Appendix 4:

- i) right ascension of the ascending node;
- ii) argument of perigee;
- iii) active service arc.

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<sup>1</sup> Sections I, II and III apply to terrestrial services only in the case where a power flux-density limit at the surface of the Earth (for a space station) or at the border of the territory of another administration (for an earth station) specified in a provision of the Radio Regulations is exceeded.

## **Section I. Procedures for the Advance Publication of Information on Planned Satellite Networks**

### **Publication of Information**

**1.1** An administration (or one acting on behalf of a group of named administrations) which intends to bring into use a satellite network within a satellite system shall, prior to the coordination procedure described in paragraphs 2.1 and 2.2, send to the International Frequency Registration Board, not earlier than six years<sup>1</sup> and preferably not later than two years before the date of bringing into service of each satellite network, the information listed in Appendix 4.

**1.2** Amendments to the information sent in accordance with the provisions of paragraph 1.1 shall also be sent to the Board as soon as they become available. Modifications which are of such a nature as to change significantly the character of the network may require recommencing the advance publication procedure.

**1.3** On receipt of the complete information sent under paragraphs 1.1 and 1.2, the Board shall publish it in a special section of its weekly circular within three months and shall also, when the weekly circular contains such information, so advise all administrations by circular telegram. The circular telegram shall indicate the frequency bands to be used and, in the case of a geostationary satellite, the orbital location of the space station. When the Board is not in a position to comply with the time limit referred to above, it shall periodically so inform the administrations, giving the reasons therefor.

### **Comments on Published Information**

**1.4** If, after studying the information published under paragraph 1.3, any administration is of the opinion that interference which may be unacceptable may be caused to assignments of its existing or planned satellite networks or to assignments to its existing or planned terrestrial radiocommunication stations, it shall, within four months after the date of the weekly circular containing the complete information listed in Appendix 4, send the administration concerned its comments on the particulars of the interference to its existing or planned satellite systems or to its existing or planned terrestrial stations. A copy of these comments shall also be sent to the Board. If no such comments are received from an administration within the period mentioned above, it may be assumed that the administration has no basic objections to the planned satellite network(s) of the system on which details have been published.

**1.4A** An administration sending information under paragraphs 1.1 and 1.2 shall, if requested by an administration receiving information published under paragraph 1.3, provide the technical methods and criteria it proposes to use for the evaluation of the interference.

**1.4B** An administration receiving information published under paragraph 1.3, may provide to the administration sending information under paragraphs 1.1 and 1.2 the technical methods and criteria it proposes to use for the evaluation of the interference.

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<sup>1</sup> See also No. 1550



### **Resolution of Difficulties**

**1.5** An administration receiving comments sent in accordance with paragraph 1.4 and administrations sending such comments shall endeavour to resolve any difficulties that may arise and shall provide any additional information that may be available.

**1.5A** In case of difficulties arising, the administration responsible for the planned network shall first explore all possible means of meeting its requirements without considering the possibility of adjustment to stations or networks of other administrations. If no such means can be found, the administration concerned may then request other administrations, either bilaterally or multilaterally, to mutually help resolve these difficulties.

**1.5B** An administration receiving a request under paragraph 1.5A shall, in consultation with the requesting administration, explore all possible means of meeting the latter's requirements.

**1.5C** If, after following the procedure described in paragraphs 1.5A and 1.5B, there are unresolved difficulties, the administrations concerned shall jointly make every possible effort to resolve these difficulties by means of mutually acceptable adjustments.

### **Results of Advance Publication**

**1.6** An administration on behalf of which details of planned satellite networks have been published in accordance with the provisions of paragraphs 1.1 to 1.3 shall, after the period of four months specified in paragraph 1.4, inform the Board whether or not comments provided for in paragraph 1.4 have been received and of the progress made in resolving any difficulties. Additional information on the progress made in resolving any remaining difficulties shall be sent to the Board at intervals not exceeding six months prior to the commencement of coordination or the sending of the notices to the Board. The Board shall publish this information in the special section of its weekly circular.

**1.7** When, upon expiry of a period of six years plus the extension provided for in No. 1550 after the date of the publication of the special section referred to in paragraph 1.3, the administration responsible for the network has not submitted the Appendix 3 information for coordination under paragraph 2.1 or paragraph 2.2 or notification under No. 1488, as appropriate, the information published under paragraph 1.3 shall be cancelled after the administration concerned has been informed.

### **Commencement of Coordination or Notification Procedures**

**1.8** When communicating to the Board the information referred to in paragraph 1.1, an administration may, at the same time or at a later time, communicate:

**1.8A** the information required for the network coordination of a frequency assignment to a station of a satellite network in accordance with the provisions of paragraph 2.6, or

**1.8B** the information required for notification of a frequency assignment to a station of a satellite network when coordination for that assignment is not required.

**1.8C** Such coordination or notification information, as the case may be, shall be considered as having been received by the Board not earlier than six months after the date of receipt of the information referred to in paragraph 1.1.

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## Section II. Coordination of Frequency Assignments to a Station of a Satellite Network

### Requirement for Coordination

2.1 Before an administration (or one acting on behalf of one or more named administrations) notifies to the Board or brings into use any frequency assignment to a station of a non-geostationary-satellite network, it shall effect coordination of the assignment with any other administration whose assignment to a station in a geostationary-satellite network, or whose assignment to a station of a non-geostationary-satellite network or whose assignment to a terrestrial station might be affected.

2.2 Before an administration (or one acting on behalf of one or more named administrations) notifies to the Board or brings into use any frequency assignment to a station of a geostationary-satellite network, it shall effect coordination of the assignment with any other administration whose assignment to a station of a non-geostationary-satellite network might be affected.

2.3 Coordination under paragraphs 2.1 and 2.2 may be effected for a satellite network using the information relating to the space station, including its service area, and the parameters of one or more typical earth stations which may be located in all or part of the space station service area.

2.4 If a frequency assignment is brought into use before the commencement of the coordination procedure of paragraphs 2.1 or 2.2, when this coordination is required, the operation in advance of the receipt by the Board of the Appendix 3 information shall in no way afford any priority of the date.

2.5 Frequency assignments to be taken into account in the application of paragraphs 2.1 and 2.2 are those with a frequency overlap with the planned assignment, pertaining to the same service or to another service to which the band is allocated with equal rights, or a higher category of allocation (see Nos. 420 to 425 and 435), and which:

for space services, are:

- 2.5.1 in conformity with No. 1503, and
- 2.5.2 either recorded in the Master Register, or coordinated under the provisions of this Section or of Section II of Article 11, or
- 2.5.3 included in the coordination procedure with effect from the date of receipt by the Board, in accordance with paragraph 2.6 or No. 1074 or 1074A of Article 11, of the relevant information as specified in Appendix 3;

or, for terrestrial services, are:

- 2.5.4 recorded in the Master Register with a favourable finding with respect to No. 1240, or
- 2.5.5 not notified but in use or planned to be brought into use within the next three years.

### **Coordination Data**

- 2.6 The administration seeking coordination shall send to the Board the information listed in Appendix 3.
- 2.7 On receipt of the complete information referred to in paragraph 2.6, the Board shall:
- 2.7.1 examine this information with respect to its conformity with No. 1503; the date of its receipt shall be considered as the date from which the assignment will be taken into account for coordination;
  - 2.7.2 publish in the special section of its weekly circular, within three months, the information received under paragraph 2.6 and the result of the examination under paragraph 2.7.1.<sup>1</sup> When the Board is not in a position to comply with the time limit referred to above, it shall periodically so inform the administrations giving the reasons therefor.

### **Examination of Coordination Data and Agreement Between Administrations**

2.8 On receipt of the special section referred to in paragraph 2.7.2, an administration shall promptly examine the matter with regard to interference which would be caused to the frequency assignments of its network or terrestrial stations, or caused by these assignments. In so doing, it shall have regard to the proposed date of bringing into use of the assignment for which coordination is sought. It shall then, within six months from the date of the relevant weekly circular, notify the administration seeking coordination of its agreement. If, however, the administration with which coordination is sought does not agree, it shall, within the same period, send to the administration seeking coordination the technical details of the networks or information on the terrestrial stations concerned upon which its disagreement is based, including the characteristics contained in Section C of Appendix 1 or Appendix 3 which have not previously been notified to the Board, and make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem. A copy of these comments shall also be sent to the Board.

2.8A Affected administrations, as well as the administration seeking coordination, shall make all possible mutual efforts to overcome the difficulties in a manner acceptable to the parties concerned.

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<sup>1</sup> To help administrations identify services that may be affected, the Board shall also publish a list of administrations whose assignments comply with paragraphs 2.5 and 2.5.1 to 2.5.3 or paragraphs 2.5 and 2.5.4.

### **Results of Coordination**

**2.9** An administration which has initiated a coordination procedure under the provisions of paragraphs 2.1 to 2.6 shall communicate to the Board the names of the administrations with which agreement has been reached. The Board shall publish this information in the special section of its weekly circular.

**2.10** An administration which has sought coordination, as well as any administration which has complied with the provisions of paragraph 2.8, shall communicate to the Board any modifications to the published characteristics of their respective networks or stations that were required to reach agreement on the coordination. The Board shall publish this information in accordance with paragraph 2.7.2, indicating that these modifications resulted from the joint efforts of the administrations concerned to reach agreement on the coordination.

### **Notification of Frequency Assignments In the Event of Continuing Disagreement**

**2.11** In the event of continuing disagreement between an administration seeking to effect coordination and any administration with which coordination has been sought, the administration seeking coordination shall, except in the cases where the assistance of the Board has been requested, defer the submission of its notice concerning the proposed assignment by eight months from the date of publication of the special section referred to in paragraph 2.7.2, taking into account the provisions of No. 1496. When the assistance of the Board has been requested, the submission of the notice shall be deferred for a further three months.

### **Section III. Coordination of Frequency Assignments to Earth Stations of a Non-Geostationary-Satellite Network in Relation to Terrestrial Stations**

#### **Requirement for Coordination**

3.1 Before an administration notifies to the Board or brings into use any frequency assignment to a fixed earth station or to typical earth stations in a particular band allocated with equal rights to space and terrestrial radiocommunication services, it shall effect coordination of the assignment with each administration whose territory lies wholly or partly within the coordination area<sup>1</sup>. The request for coordination may specify all or some of the frequency assignments to the associated space station, but thereafter each assignment shall be dealt with individually.

#### **Coordination Data**

3.2 For the purpose of effecting coordination, the administration requesting coordination shall send to each administration concerned under paragraph 3.1 all pertinent information concerning the proposed frequency assignment as listed in Appendix 3, and an indication of the approximate date on which it is planned to begin operations. A copy of this information with the date of dispatch of the request for coordination shall also be sent to the Board for information.

#### **Acknowledgement of Receipt of Coordination Data**

3.3 An administration with which coordination is sought under paragraph 3.1 shall immediately acknowledge receipt of the coordination data.

#### **Examination of Coordination Data and Agreement Between Administrations**

3.4 On receipt of the coordination data, an administration shall, having regard to the proposed date of bringing into use of the assignment for which coordination was requested, promptly examine the matter with regard to both:

- 3.4.1 interference which would affect the service rendered by its terrestrial radiocommunication stations operating in accordance with the Convention and these Regulations, or to be so operated prior to the planned date of bringing into service of the earth station assignment, or within the next three years, whichever is the longer; and

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<sup>1</sup> The coordination area is defined as the service area in which it is intended to operate the typical earth stations, extended in all directions by a coordination distance of 500 km, or as a circular zone with a radius of 500 km centred on the coordinates of the fixed earth station. For a service area in which aircraft earth stations operate, the coordination area is the service area extended in all directions by a coordination distance of 1,000 km.

- 3.4.2 interference which would be caused to reception at an earth station by the service rendered by its terrestrial radiocommunication stations operating in accordance with the Convention and these Regulations, or to be so operated prior to the planned date of bringing into service of the earth station assignment, or within the next three years, whichever is the longer.

3.5 The administration with which coordination is sought shall, within four months from dispatch of the coordination data:

- 3.5.1 notify the administration requesting coordination of its agreement with a copy to the Board, indicating, where appropriate, the part of the allocated frequency band containing the coordinated frequency assignments; or
- 3.5.2 notify that administration of its disagreement.

3.6 In the case mentioned in paragraph 3.5.2, the administration with which coordination is sought shall send to the administration requesting coordination a diagram drawn to an appropriate scale indicating the location of those terrestrial radiocommunication stations which are or will be within the coordination area, together with all other relevant basic characteristics using Appendix 1 and make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem.

3.7 When the administration with which coordination is sought sends to the administration seeking coordination the information required in the case of paragraph 3.5.2, a copy thereof shall also be sent to the Board.

#### **Notification of Frequency Assignments In the Event of Continuing Disagreement**

3.8 In the event of continuing disagreement between an administration seeking to effect coordination and an administration with which coordination has been sought, the administration seeking coordination shall, except in the cases where the assistance of the Board has been requested, defer the submission of its notice concerning the proposed assignment by six months from the date of the request for coordination, taking into account the provisions of No. 1496. When the assistance of the Board has been requested, the submission of the notice shall be deferred for a further three months.

## **Section IV. Coordination of Frequency Assignments to Terrestrial Stations for Transmission in Relation to Earth Stations of a Non-Geostationary-Satellite Network**

### **Requirement for Coordination**

**4.1** Before an administration notifies to the Board, or brings into use any frequency assignment to a terrestrial station for transmission within the coordination area<sup>1</sup> of an earth station of a non-geostationary-satellite network, in a band allocated with equal rights to terrestrial radiocommunication services and space radiocommunication services (space-to-Earth), it shall effect coordination of the proposed assignment with the administration responsible for the earth stations with respect to the frequency assignments:

- 4.1.1** which are in conformity with No. 1503; and
- 4.1.2** for which coordination has been agreed under 3.5.1.

### **Coordination Data**

**4.2** For the purpose of effecting coordination, the administration requesting coordination shall send to each administration concerned under paragraph 4.1 all pertinent information. The request for coordination may specify all or some of the frequency assignments expected to be used within the next three years by stations of a terrestrial network wholly or partly within the coordination area of the earth stations. Thereafter each assignment shall be dealt with individually.

### **Acknowledgement of Receipt of Coordination Data**

**4.3** An administration with which coordination is sought under paragraph 4.1 shall immediately acknowledge receipt of the coordination data.

### **Examination of Coordination Data and Agreement Between Administrations**

**4.4** On receipt of the coordination data, the administration with which coordination is sought shall promptly examine the matter with regard to interference which would affect the services rendered by its earth stations covered by paragraph 4.1, which are operating or are to be operated within the next three years.

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<sup>1</sup> The coordination area is defined as the service area in which it is intended to operate the typical earth stations, extended in all directions by a coordination distance of 500 km, or as a circular zone with a radius of 500 km centred on the coordinates of the fixed earth station. For a service area in which aircraft earth stations operate, the coordination area is the service area extended in all directions by a coordination distance of 1,000 km.

4.5 The administration with which coordination is sought shall, within an overall period of four months from dispatch of the coordination data, either notify the administration requesting coordination of its agreement to the proposed assignment or, if this is not possible, indicate the reasons for its objection and make such suggestions as it may be able to offer with a view to a satisfactory solution of the problem.

#### **Notification of Frequency Assignments in the Event of Continuing Disagreement**

4.6 In the event of continuing disagreement between an administration seeking to effect coordination and an administration with which coordination has been sought, the administration seeking coordination shall, except in the cases where the assistance of the Board has been requested, defer the submission of its notice concerning the proposed assignment by six months from the date of the request for coordination, taking into account the provisions of Nos. 1230 and 1496. When the assistance of the Board has been requested, the submission of the notice shall be deferred for a further three months.



## **Section V. Notification of Frequency Assignments**

### **Notification of Assignments to Space Stations and Earth Stations**

**5.1** An administration shall, for the purpose of notifying an assignment to the Board, apply the provisions of Article 13. When applying the provisions of Article 13 to frequency assignment notices relating to space stations and earth stations covered by this Resolution, the Board shall:

- 5.1.1** in applying No. 1504, also examine the notice with respect to its conformity with the provisions of paragraphs 2.1 or 2.2 relating to coordination of the use of the frequency assignment with the other administrations concerned;
- 5.1.2** in applying No. 1505, also examine the notice with respect to its conformity with the provisions of paragraph 3.1 relating to coordination of the use of the frequency assignment with the other administrations concerned;
- 5.1.3** in applying No. 1506, also examine the notice with respect to the probability of harmful interference when the coordination under paragraph 2.1 or 2.2 has not been successfully effected;
- 5.1.4** in applying No. 1509, also examine the notice with respect to the probability of harmful interference when the coordination under paragraph 3.1 has not been successfully effected;
- 5.1.5** not apply Nos. 1515 and 1516.

**5.2** The examination under paragraph 5.1.3 or 5.1.4 shall take into account the frequency assignments for transmission or reception already recorded in the Master Register.

### **Notification of Assignments to Terrestrial Stations**

**5.3** An administration shall, for the purpose of notifying an assignment to the Board, apply the provisions of Article 12. When applying the provisions of Article 12 the Board shall, in application of No. 1353, examine frequency assignment notices relating to terrestrial stations covered by this Resolution with respect to their conformity with the provisions of paragraph 4.1 relating to coordination of the use of the frequency assignment with the other administrations concerned.